Solar Heat Europe
ESTIF

Solar Keymark Network meeting

Update on energy labelling topics

Webmeeting
22-23 October 2019

Labelling

Index

- EC product database (EPREL)
- Simplified solar method (Lot1 & Lot2)
- HARP – Heating Appliances Retrofit Planning

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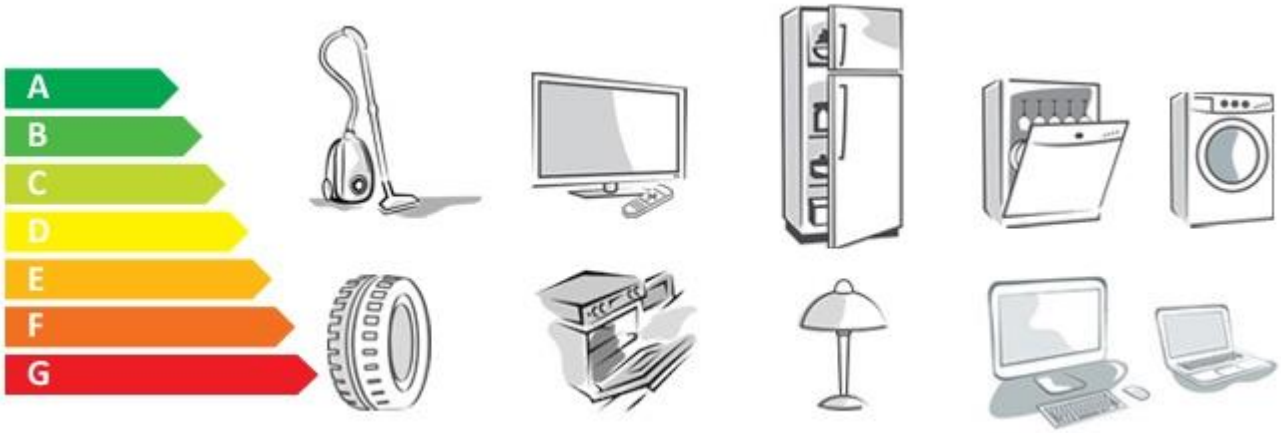
EC product database (EPREL)

Compulsory registration of space and water heating products Final stage



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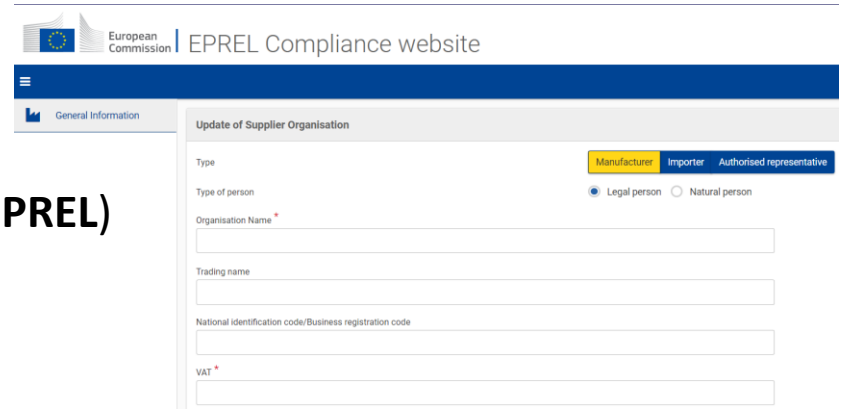

From **1st January 2019**, the European Product Registry for Energy Labelling (**EPREL**) is **online**.

What has to be registered?

- All **new products** have to be registered since January 2019
- All **products** placed in the **market before the end of 2018** have to be registered within a 6 month period
- Products covered by a delegated act under **Energy Labelling regulations** (including Lot1 and Lot2) for space and water
- "solar devices" and other components of a **package**
- **Packages,** if placed in the market as a package by the manufacturer.

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EC product database (EPREL)

- This obligation applies to all products covered by the regulations, which means that **solar devices and other components of a package shall also be registered**.

- Packages will also be in the system, if they are placed in the market as a package by the manufacturer.

- **Delays in implementation,** namely for space and water heater and the package option. Information on performed updates and planned updates.

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EC product database (EPREL)

EPREL will have two interfaces:

- compliance site – for surveillance authorities, will start operating formally next month.
- public site – will be available during the first half of 2020.

- Useful **documents** covering the registration and compliance control are available in the EPREL dedicated workspace

- To access: entities will need an 'EU LOGIN' account. Those entities with an EU login (for EU projects, for instance), can use it.

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EC product database (EPREL)

IMPORTANT:

- In parallel to the Official Registry, there is a **test** option, designated Acceptance. In this one users can practice/test the introduction of data in the EPREL Compliance Website.

- Solar thermal users to provide us **feedback** on experience using **EPREL** and in particular for **solar** devices.

- This feedback is essential to compile solar thermal feedback, questions and inputs to the **European Commission**.

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Simplified method for solar thermal systems

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Simplified method for ST

- Starting point
  - Solar thermal devices are heat generators that:
    - Can supply up most of water heating needs
    - Can supply considerable part of the space heating
  - 100% CO_2-free heating technology, low life cycle costs, high recyclability of materials.
  - Not consuming energy, hence no product label except for solar water heater (thermosiphon with immersion electric heater)
  - Contributes to increase performance of package (package label)
  - Package label not working on market:
    - overall complexity, hard for installers to calculate solar devices, issues with method, difficult (or none) market surveillance.

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Simplified method for ST

One major innovation of the proposal: the **“Solar Enhancement Factor”**

*In brief, it has been identified by experts that the **improvement** a solar thermal system brings to a **non-solar heat generator** (usually referred in solar systems as **a back-up heater**, such as a **boiler**, a **heat pump** or an **electric heater**) can be identified as a function. This solar device efficiency is based on heat loads for space or water heating. Thus, it can be calculated for each **specific** solar thermal system **both** for **water heaters and combination heaters**.*

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Simplified method for ST

- SHE PROPOSAL
  - Simplifying installer tasks:
    - Option 1: produce a label class of solar system with the backup heater
    - Option 2: produce a factor for multiplication with the backup heater efficiency

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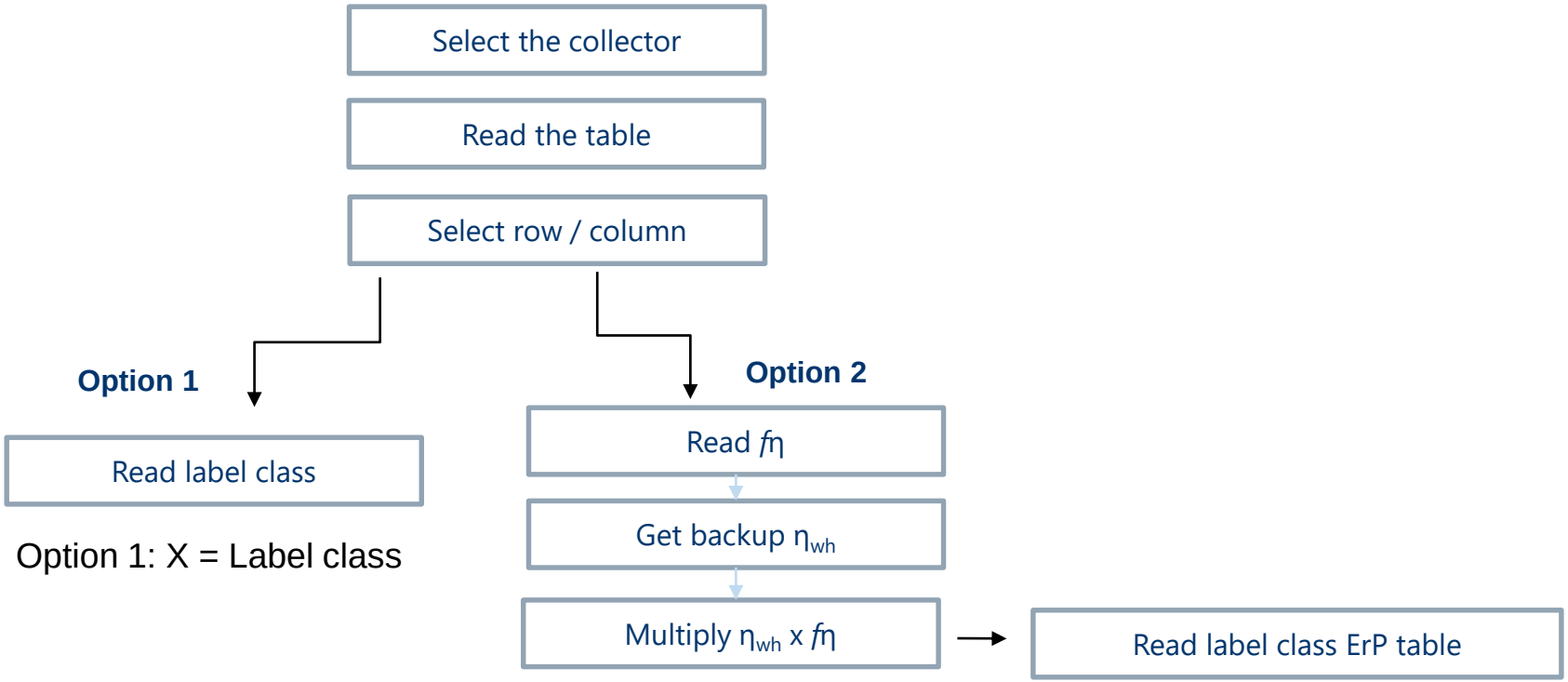
Simplified method for ST

- Simple calculation process



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Simplified method for ST

- Table to facilitate installer

Option 1: X = Label class

Option 2: X = $f\eta$
$\eta_{sys} = \eta_{bh} \times f\eta$ => label class

Results of ScenoCalc for one collector module - COMBI HEATING																
			Number of collector modules:													
		Service: ↓	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
		WH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		SH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

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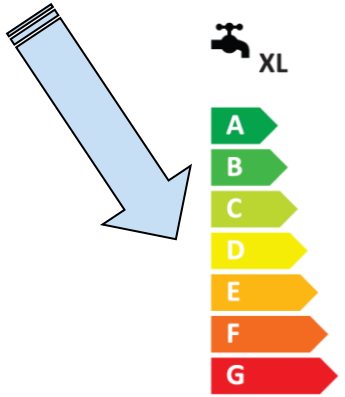
Simplified method for ST

Input:

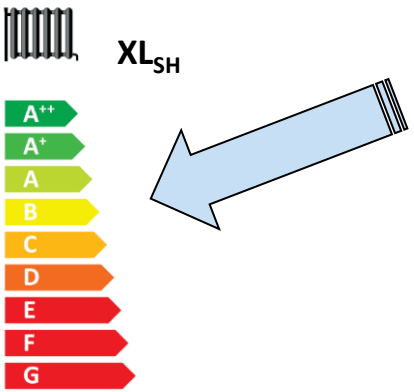
- Collector test results (EN12975)

Output:

EtaWH												
Average	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
M	X	X	X	X	X	X	X	X	X	X	X	X
L	X	X	X	X	X	X	X	X	X	X	X	X
XL	X	X	X	X	X	X	X	X	X	X	X	X
XXL	X	X	X	X	X	X	X	X	X	X	X	X
Warmer	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
M	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
XL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
XXL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Colder	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
M	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z
L	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z
XL	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z
XXL	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z



η_{Sol}												
Average	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
M_{SH}	P	P	P	P	P	P	P	P	P	P	P	P
L_{SH}	P	P	P	P	P	P	P	P	P	P	P	P
XL_{SH}	P	P	P	P	P	P	P	P	P	P	P	P
XXL_{SH}	P	P	P	P	P	P	P	P	P	P	P	P
Warmer	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
M_{SH}	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
L_{SH}	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
XL_{SH}	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
XXL_{SH}	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
Colder	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
M_{SH}	R	R	R	R	R	R	R	R	R	R	R	R
L_{SH}	R	R	R	R	R	R	R	R	R	R	R	R
XL_{SH}	R	R	R	R	R	R	R	R	R	R	R	R
XXL_{SH}	R	R	R	R	R	R	R	R	R	R	R	R



η_{SH}=Existing

$\eta_{SH+Sol}=\eta_{SH} \times \eta_{Sol}$

Simplified method for ST

- Easily available data

Annex to Solar Keymark Certificate	Licence Number	011-7S1041 R
Supplementary Information	Issued	2010-03-16T00:00:

Annual collector output in kWh/collector at mean fluid temperature Tm, based on EN 12975 Test Results

Standard Locations		Athens			Davos			Stockholm			Würzburg		
Collector name	ϑ_m	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C
VRK 14		2,565	2,323	1,977	2,225	1,931	1,580	1,613	1,381	1,108	1,734	1,491	1,199
VRK 10		1,840	1,667	1,418	1,596	1,385	1,134	1,158	991	795	1,244	1,070	860

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Simplified method for ST

- PROPOSAL
  - Collector parameters (EN12975 and ISO9806)
  + Collector gross yield (to be introduced in standards)
  – New basis for the determination of the performance of a solar system considering all relevant collector parameters, the local climate and operating conditions.
  – Already in use for more than 20 years to compare the performance of collectors in an unambiguous way
  – Adopted in the CEN Solar Keymark certification scheme as Scenocalc
  – Information is easily available
  – Product fiche (from manufacturer or in EPREL for recent products)
  – Solar Keymark database and SK certificates

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Simplified method for ST

Process:

- December 2017 - first set of reports on “Policies & Standards” and on Markets.
- January 2018 - first stakeholders consultation meeting.
- September & October 2018 - set of **proposals** discussed between SHE and experts from our sector with the consultants in charge of the review study during that period.
- March 2019 - after some delays in the process, the final set of **draft reports** from the consultants (VHK) were released
- April 2019 - second **stakeholders consultation** meeting.

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Simplified method for ST

During this period, a group of solar heat experts worked actively on a **Simplified Method for Solar Thermal:**

- Adaptation of the original proposal from Solar Heat Europe by the consultants in March 2019 version of reports.
- This adaptation was considered **too simple** and not reflecting adequately the potential of solar thermal but was a good indication that a **simplified method** for solar thermal **was possible**.

A new Solar Heat Europe proposal – was presented to the consultants, European Commission and other stakeholders. Thanks to intense work from several experts (Andreas Bohren (SPF), Stefan Abrecht (Solar Heat Initiative) and also Gerard van Amerongen (VA Consult)

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Simplified method for ST

- Current status
  - Solar Enhancement Factor included in final review-study
  - Available now - The final version of the review-study on Ecodesign and Energy Label regulations for Boilers (Lot 1) and Water Heaters (Lot 2)
    - Energy Labelling (SHE website)
    - Space heaters or water heaters review websites
  - Combining two proposed calculations:
    - Method AB (online folder)
    - Method SA (online folder)

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Simplified method for ST

Resources related to Ecodesign and Energy Labeling for solar thermal related products

- + Final Reports
- + Updates
- + Review Lot 1: Space heaters
- + Review Lot 2: Water heaters
- + Thermosiphon systems
- + Regulations
- + Manuals for industry
- + Package Label calculation tools
- + Archive

− Review Lot 1: Space heaters

Review studies:

› Policies & Standards (published 15 December 2017)

› Markets (published 15 December 2017)Consultation meetings:

› Consultation on Lot 1 of ErP (Space Heaters), 23rd January 2018, Brussels

Consultation meetings:

› Consultation on Lot 1 of ErP (Space Heaters), 23rd January 2018, Brussels

› **Consultation documents:**

– Draft Minutes 23 January 2018 Boilers – For review before 2nd February

– **Presentations:**

– Presentation 23 Jan 2018 BOILER INTRO + TASK 1

– Presentation 23 Jan 2018 BOILER TASK 2

– Presentation C4 boilers in Germany, by UBA

− Review Lot 2: Water heaters

Review studies:

› Policies & Standards (published 15 December 2017)

› Markets (published 15 December 2017)

Consultation meetings:

› Consultation on Lot 2 of ErP (Water Heaters), 23rd January 2018, Brussels

› **Consultation documents:**

– Draft Minutes 23 January 2018 Water Heaters – For review before 2nd February

– **Presentations:**

– Presentation 23 Jan 2018 WATER HEATER INTRO + TASK 1

– Presentation 23 Jan 2018 WATER HEATER TASKS 2

– Presentation C4 boilers in Germany, by UBA

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Simplified method for ST

- Challenges for standardisation
  - Revision of standards is difficult
    - Some are not under control of CEN TC 312
    - No Convenors for EN12976 and EN12077 series
  - Revisions must be decided by CEN/TC 312
    - next meeting in Spring 2020 (Tunisia)
    - Decision by circular would be possible earlier
  - Changes to EN12975
    - Include concept of gross thermal yield GTY
    - Consider several options:
      - ErP reference locations
      - publishing weather data on an hourly basis
      - including Annex X "Comparing performance figures with other technologies"

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Simplified method for ST

Next steps

- Additional work on SHE's proposal in terms of **standardisation**.
- Finalise the proposed calculations required for the referred method, including agreement on some of the assumptions used to simplify the calculation.

We invite solar thermal experts to join the working-group that is been following the review of Lot1 and Lot2!

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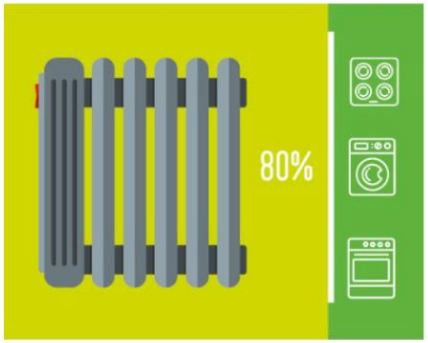
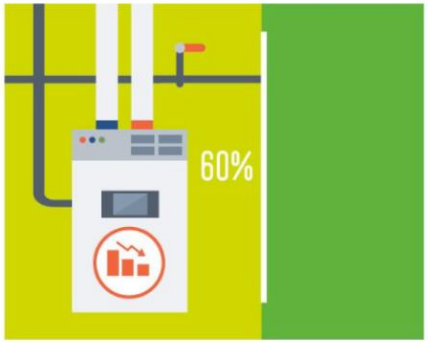
HARP
Heating Appliances Retrofit Planning

Why is HARP important?

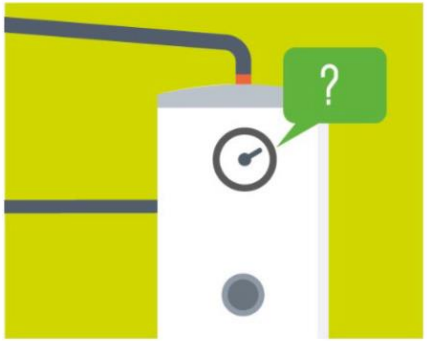
Heating represents 80% of the energy demand of EU households



60% of the heating stock consists in inefficient boilers (class C or lower)



Consumers are not informed about the efficiency of their installed heating systems



Context

- Heating and DHW represent 85% of buildings energy consumption
- 126million space heaters installed in the EU
- 59% of the installed stock is old and inefficient

Problem

- Inefficient and old heating system;
- Consumer lack of know-how.

Methodology

1. Awareness
2. Quatification
3. Overview of solution
4. Analysis of benefits
5. Motivate replacement

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HARP
Heating Appliances Retrofit Planning

Objectives

GOAL

Planned replacement of old and inefficient heating solutions

1.

Increase the replacement rate of inefficient, fossil-fuel operated appliances

and significantly reduce the energy consumption and emissions from residential buildings in the 5 HARP countries (Portugal, Spain, France, Italy and Germany).

2.

Draw lessons from the implementation of a labelling scheme

for installed heating systems for potential replication at the EU level, and potential development of financing schemes building upon the experience drawn from HARP.

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HARP
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HARP App

Concept

Consumer decision process:

- Heating energy label, for installed and for new heating solutions;
- Efficient heating communities

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Thank you!

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